Installing PowerBook G4 Titanium Mercury Inverter Board

Tools used in this guide
- 5mm Nut Driver (1)
- Phillips #0 Screwdriver (1)
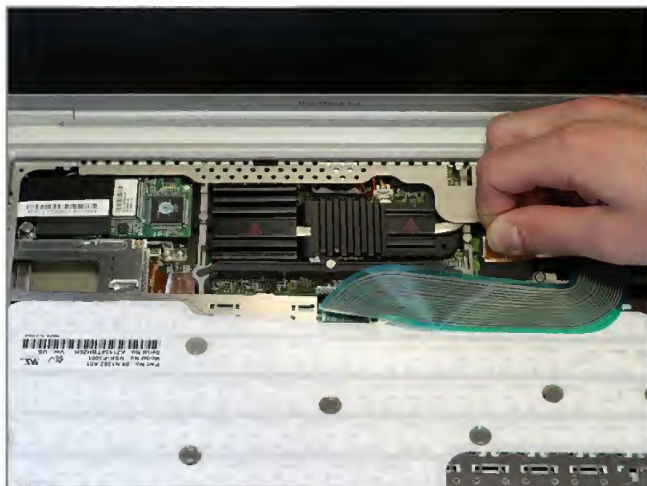- T8 Torx Screwdriver (1)

Parts relevant to this guide
- G4 Titanium Mercury Inverter Board (1)

The inverter powers the LCD backlight and is not a difficult part to replace.

Step 1 - Keyboard

- Remove the battery.
- Turn the keyboard locking screw so that it is parallel to the space bar.
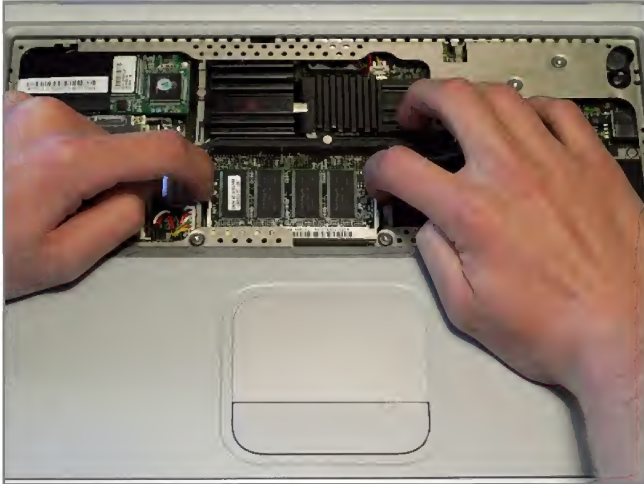- Pull the keyboard release tabs toward you and lift up on the keyboard until it pops free.

Step 2

- Rest the keyboard face down on the trackpad area.
- Disconnect the keyboard connector from the logic board.

Step 3

- Your laptop should look approximately like this.

Step 4 - RAM

- Release the tabs on each side of the RAM chip at the same time. These tabs lock the chip in place and releasing them will cause the chip to "pop" up.
- Pull the RAM chip out.
- Repeat this process if a second RAM chip is installed.
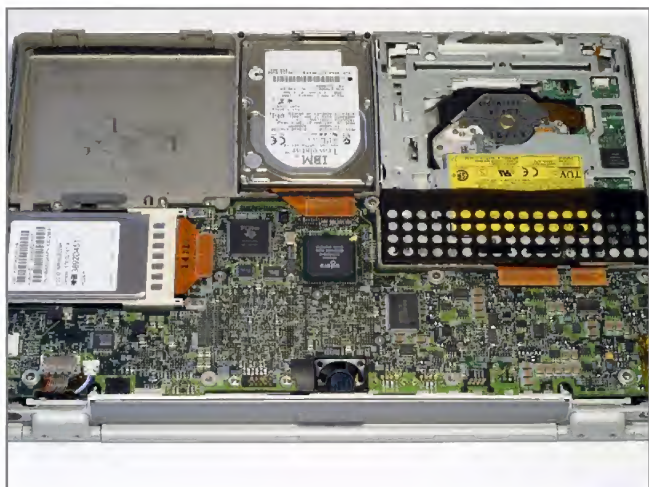

Step 5 - Lower Case

- Turn the G4 over.
- Remove the eight Phillips screws from the lower case.

Step 6

- Using your thumbs, slide the lower case away from you.
- The lower case may stick in the front on a tab just above the center of the DVD drive. Be careful as you work the case off, or you may break the thin strip of plastic just above the drive.
- Lift the lower case off.

Step 7

- Your laptop should look approximately like this.
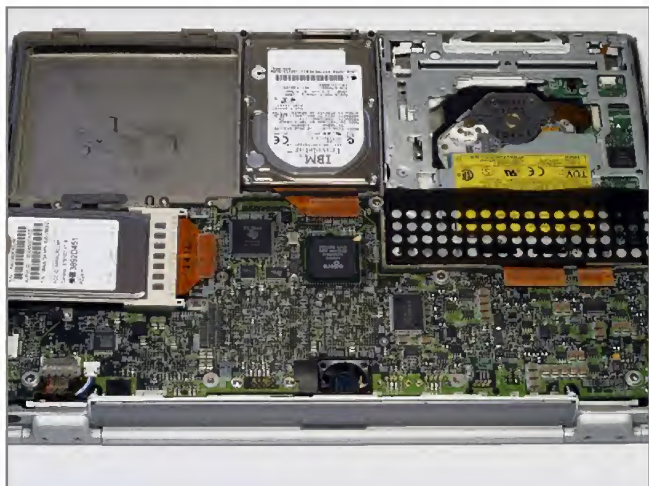
Step 8 - Airport Card

- Skip this step if your computer does not have an Airport card.

- Firmly grasp the plastic tab attached to the Airport card and pull up and to the left.
- Disconnect the antenna cable from the left side of the Airport card.
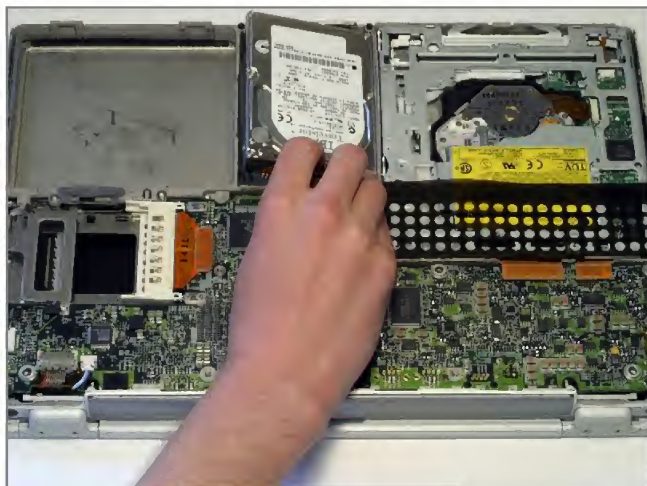

Step 9 - Hard Drive

- Disconnect the hard drive ribbon from the logic board using a spudger or the tip of your finger.
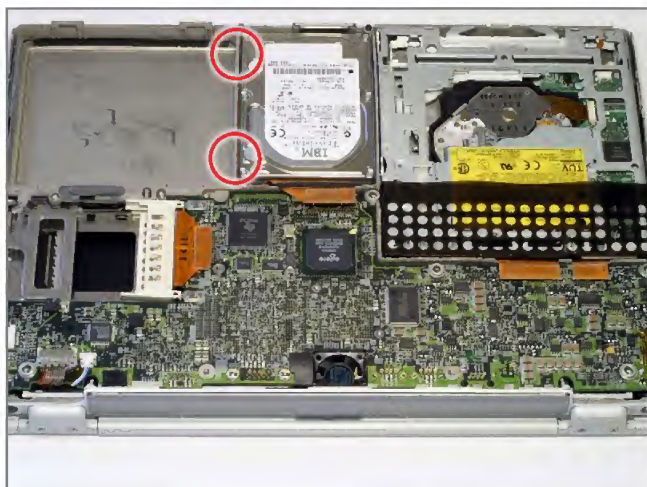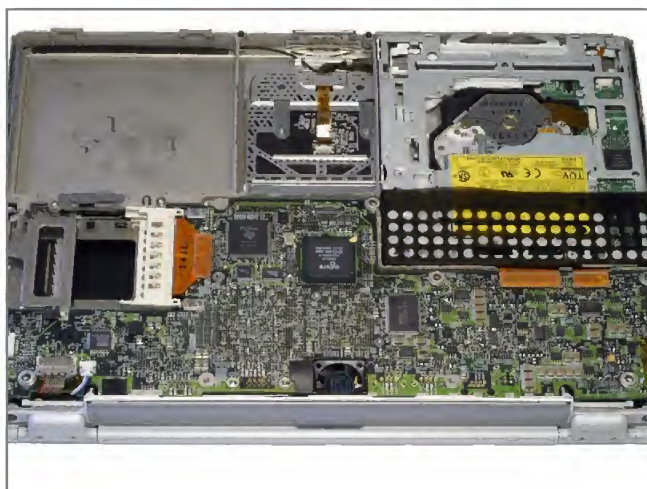
Step 10

- To free the hard drive, remove the two T8 Torx screws from the right wall of the battery housing.

Step 11

- Remove the hard drive by gently grasping the orange ribbon cable and lifting the left edge up and out of the computer.
- There are four rubber bumpers that fit over the hard drive screws. Ensure that these bumpers come out when you remove the hard drive.

Step 12

- Your laptop should look approximately like this.

Step 13 - DVD Drive

- Before continuing, place a soft cloth on your work surface to rest the computer on. Turn the G4 over, making sure the DVD drive doesn't fall out.
- Carefully peel the adhesive strip away from the DVD drive. The plastic dust shield covering the DVD drive is easily damaged. Try to start at the four corners and work toward the center.
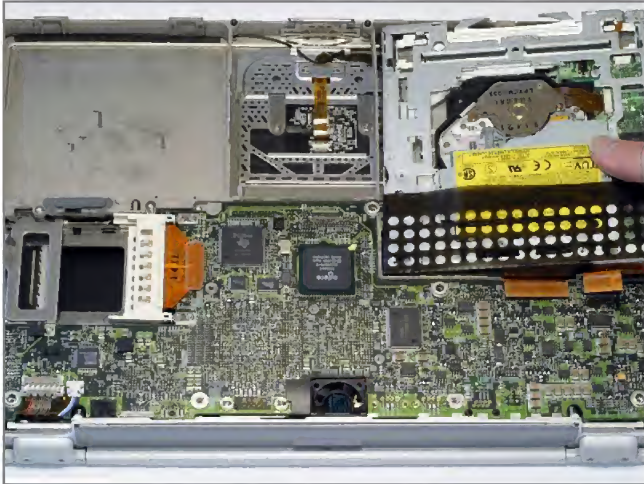

Step 14

- Bend the silver metal EMI clip so that it is vertical. This part may fall out after removing the DVD drive.
- The EMI clip is not essential for reassembling the computer. If the clip falls out, don't worry about putting it back in.
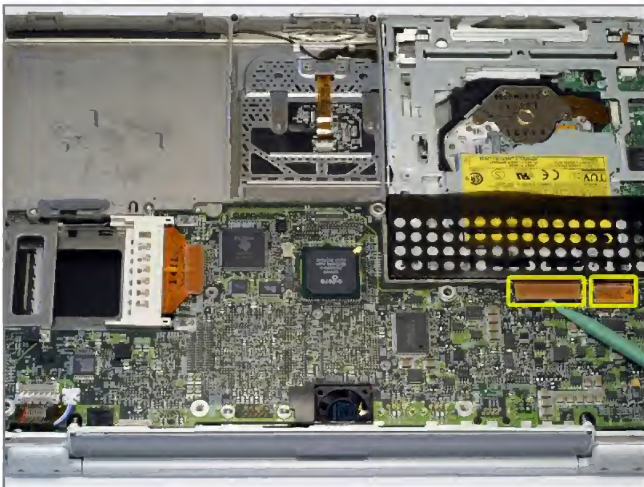
Step 15

- Turn the G4 over.
- Disconnect both orange ribbon cables from the logic board using a spudger or the tip of your finger.

Step 16

- Remove the DVD drive by lifting the right edge up and out of the computer.
- If you have a CD or any other object jammed in your optical drive, we have an optical drive repair guide.

Step 17 - Modem

- Turn the G4 over.
- Using a 5 mm nut driver or needle-nose pliers, remove the hex nut from the modem.
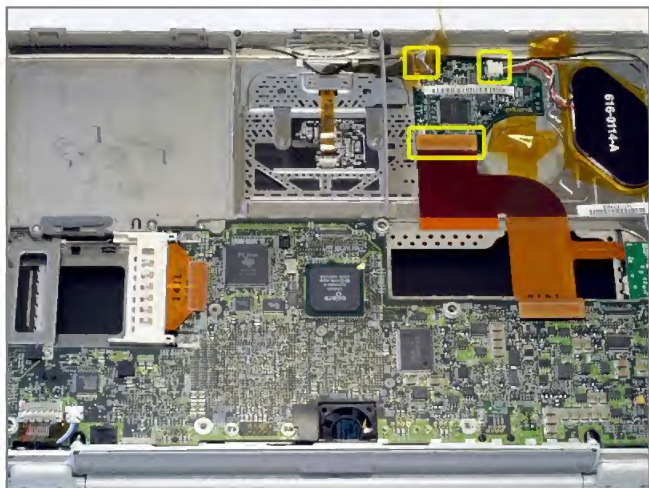
Step 18

- Lift the modem out by pulling up and to the right.
- The plastic shielding on the modem may catch on the computer's case. Rocking the modem from side to side will help free the modem.
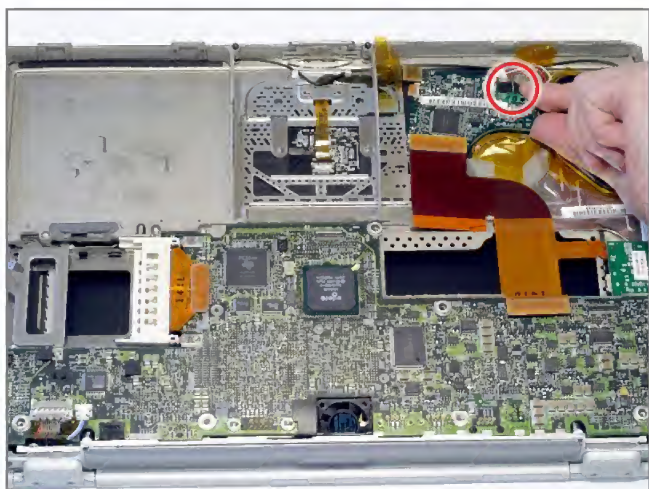
Step 19

- Disconnect the connector cable from the modem.

Step 20 - PMU

- Turn the G4 over.
- Peel the orange tape away from the three connectors on the PMU board. Leave this tape in place so you can reuse it when reassembling the G4.
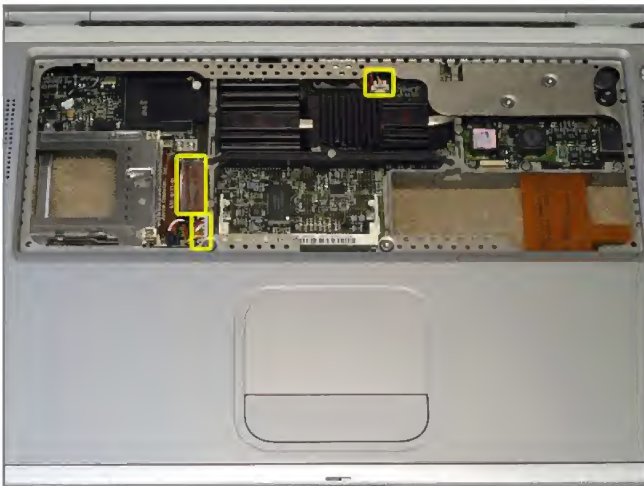- Disconnect the two orange cables and one multicolored cable from the PMU.

Step 21

- Lift up on the silver metal clip to free the PMU from the casing.
- Remove the PMU rotating it clockwise and pulling up.
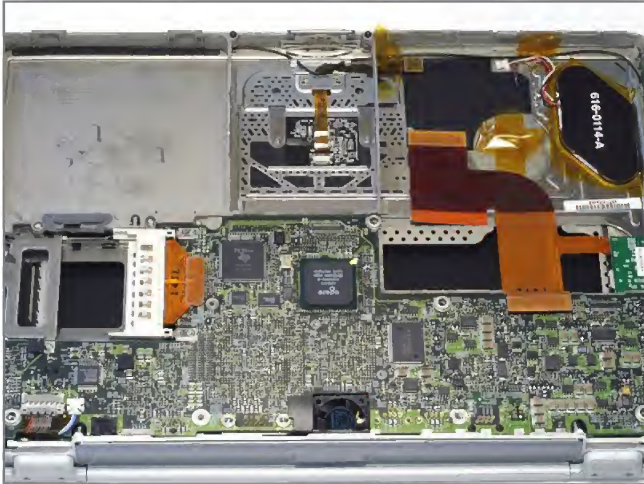
Step 22

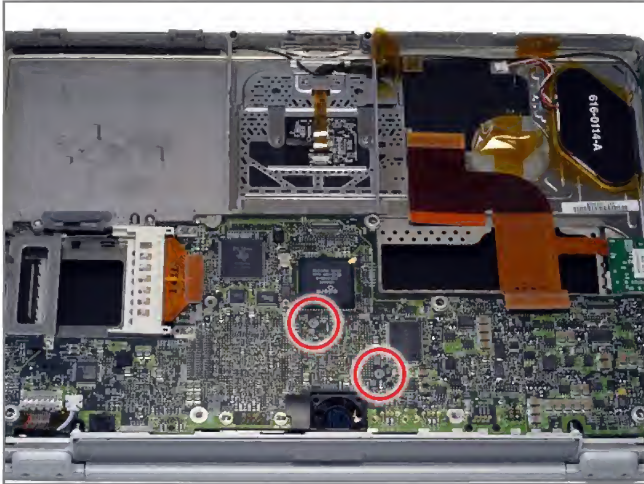- Your laptop should look approximately like this.

Step 23 - Logic Board

- Turn the G4 over and rest it on a soft cloth.
- Disconnect the multicolored fan connector and battery connector from the logic board.
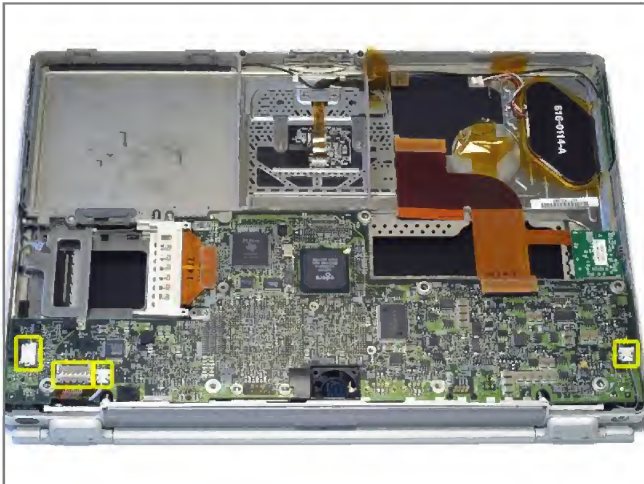- Disconnect the orange PC card cage connector from the logic board.

Step 24

- Remove the single T8 Torx screw located next to the PC Card cage.

Step 25

- Turn the G4 over.
- Remove the two T8 Torx screws from the middle of the logic board.

Step 26

- Disconnect the four indicated connectors from the logic board, removing tape as necessary.

Step 27

- Carefully lift the logic board up and pull it away from you. The logic board may catch on the back panel ports liner. If this occurs, use a spudger or non-metal tool to free the logic board.
- This step requires some force, but if the logic board will not come up, make sure you have removed all screws and connectors necessary.
- Remove the logic board from the computer.
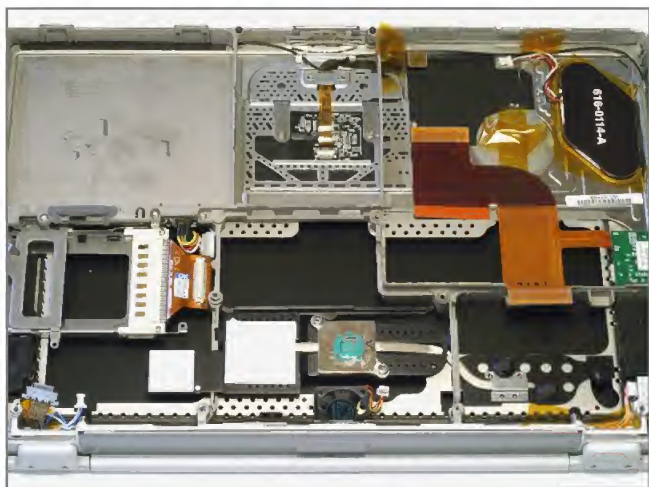
Step 28

- Your laptop should look approximately like this.
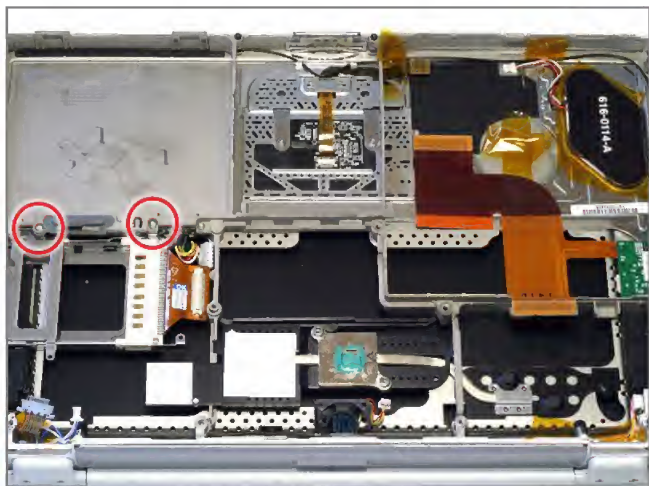
Step 29 - PC Card Cage

- Remove the two T8 Torx screws that secure the PC Card cage.

Step 30

- Remove the PC Card cage by pulling it to the right and twisting slightly toward you.

Step 31 - Display

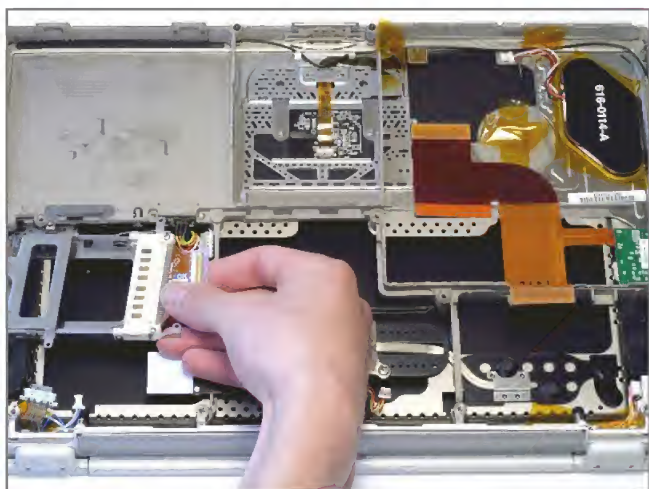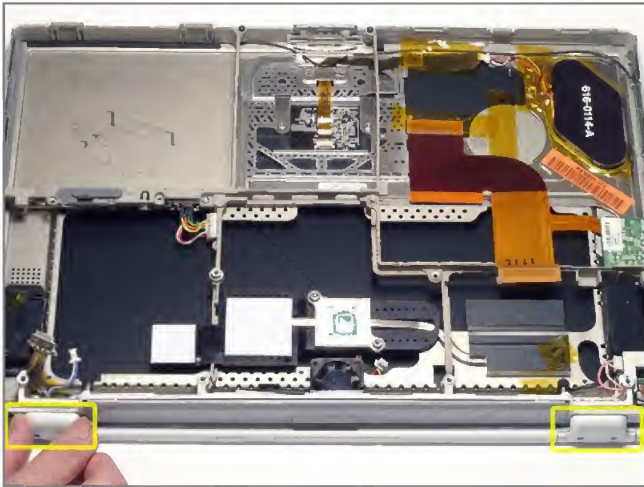- Performing the following steps incorrectly can easily damage the display and render it inoperable. The multicolor display data cable is especially fragile.

- Position the display at a 45 degree angle and rest the computer on a cloth with the back panel ports facing up. Remove the two T8 Torx screws from each clutch cover.

Step 32

- Close the display and pull off both clutch covers. You can use a non-metal flathead screwdriver if the clutch covers do not come off easily.

Step 33

- Open the display to a 90 degree angle. Rest the trackpad face down on the work surface and allow the display to hang over the edge. If possible, adjust your chair or work surface height so the display will rest on your legs and the upper case will lie flat on the work surface. If you cannot make this adjustment, you can remove the display with the screen closed. We recommend removing the display with the screen open in order to avoid changing the position of the hinges once the display has been removed.

Step 34

- Remove the four Phillips screws which fasten the display to the upper case.
- The screw closest to the display data cable has a tapered head.

Step 35

- Lift up the metal brackets on either side of the upper case.
- Disconnect the inverter cable and carefully thread it through the slot in the upper case.
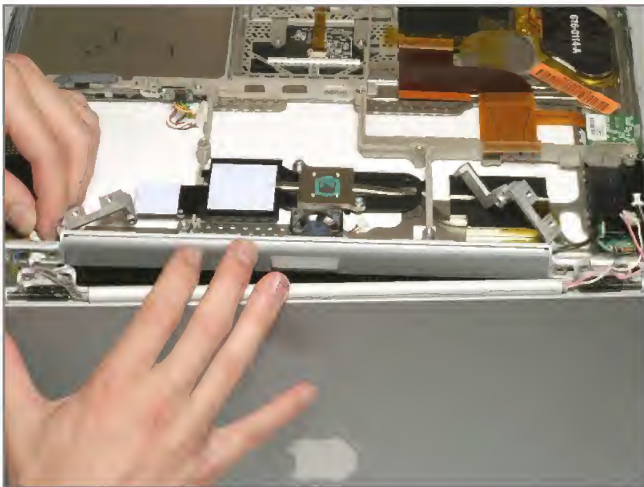
Step 36

- Carefully thread the display and backlight cables individually through the slot in the upper case. Be very careful with the display cable and it is easily damaged.
- Remove the display assembly.

Step 37

- Your laptop should look approximately like this.
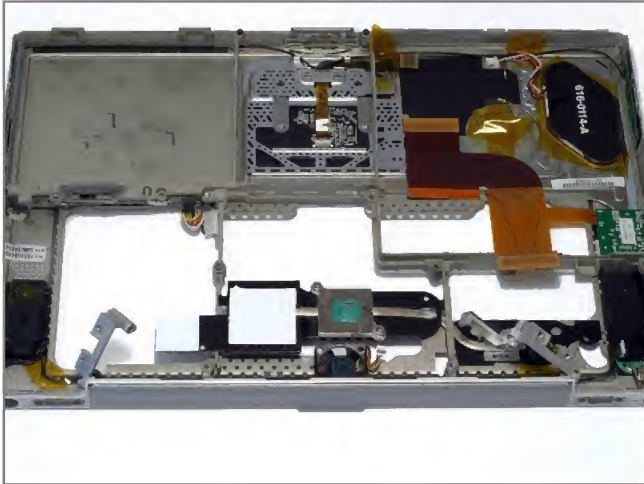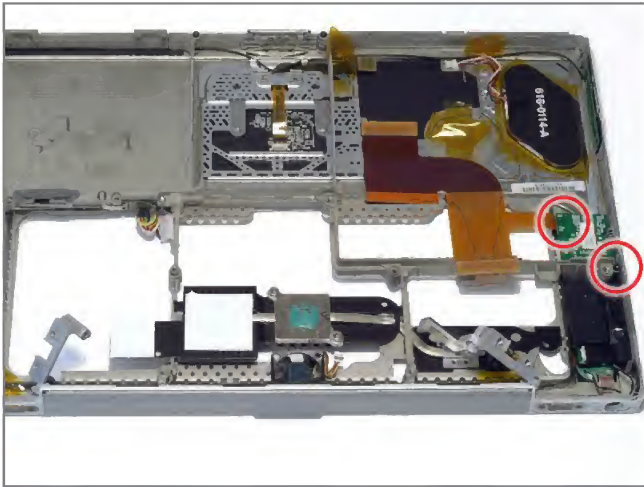

Step 38 - Inverter Board

- Remove the single black T8 Torx screw from the right side of the upper case.
- Do not overtighten this screw or you may crack the plastic.

- Disconnect the orange ribbon cable that connects underneath the inverter board.

Step 39

- Lift up on the grey plastic framework enough to allow the inverter board to pass through. Be careful not to lift too far, or you may break the framework.
- Remove the inverter board by sliding it up and to the right.

To reassemble your device, follow these instructions in reverse order.

This document was last generated on Dec 13, 2010.

G4 Ti Mercury Screw Guide

Lower Case
8 Phillips

PC Card Cage
1 T8 Torx

Hard Drive
2 T8 Torx

To organize your screws, simply place each screw in the appropriate box as you remove them from your laptop.

If you are not planning on immediately reassembling your laptop, you may want to tape the screws to this paper.

Due to model variations, the screws you remove may differ slightly from this guide.

PC Card Cage
1 T8 Torx

HD Replacement
2 T8 Torx

Display (clutch covers)
4 T8 Torx

Modem
1 5mm Standoff

Display
3 T8 Torx

Logic Board (top)
1 T8 Torx

Display
1 T8 Torx

Logic Board (bottom)
2 T8 Torx

Inverter Board
1 T8 Torx